

## CLAIMS

What is claimed is:

1. A method comprising:  
  
recognizing an interrupt pending during an operation of guest software;  
  
determining that the interrupt is to cause a transition of control to a virtual machine monitor (VMM);  
  
determining whether the interrupt is to be acknowledged prior to the transition of control to the VMM;  
  
acknowledging the interrupt if the interrupt is to be acknowledged;  
  
and  
  
transitioning control to the VMM.
2. The method of claim 1 wherein determining whether the interrupt is to be acknowledged comprises determining whether an interrupt acknowledge indicator is set to an acknowledge value.
3. The method of claim 2 wherein the interrupt acknowledge indicator is controlled by the VMM.

4. The method of claim 2 wherein the interrupt acknowledge indicator is stored in a virtual machine control structure (VMCS).
5. The method of claim 1 further comprising:
  - determining that the interrupt is not to be acknowledged prior to transitioning control to the VMM; and
  - refraining from acknowledging the interrupt prior to completing the transition of control to the VMM.
6. The method of claim 1 wherein acknowledging the interrupt comprises:
  - retrieving an identifier of the interrupt from an interrupt controller.
7. The method of claim 6 further comprising:
  - causing information concerning the identifier of the interrupt to be available to the VMM after the transition of control to the VMM is completed.
8. The method of claim 7 wherein causing the information concerning the identifier of the interrupt to be available to the VMM comprises:

storing the identifier of the interrupt in a virtual machine control structure (VMCS) prior to completing the transition of control to the VMM.

9. The method of claim 1 wherein determining that the interrupt is to cause the transition of control to the VMM comprises:

determining that an interrupt control indicator is set to a VMM control value.

10. The method of claim 9 wherein the interrupt control indicator is stored in a virtual machine control structure (VMCS).

11. The method of claim 9 wherein determining that the interrupt is to cause the transition of control to the VMM further comprises:

determining that a monitor interrupt flag is set to an unblocked value.

12. The method of claim 9 wherein the monitor interrupt flag is stored in a virtual machine control structure (VMCS).

13. An apparatus comprising:

an interrupt controller to receive an interrupt from one or more system devices; and

interrupt controller interface logic, coupled to the interrupt controller, to receive a notification of the interrupt from the interrupt controller, to determine that the interrupt is to cause a transition of control to a virtual machine monitor (VMM), to determine whether the interrupt is to be acknowledged prior to the transition of control to the VMM, to acknowledge the interrupt if the interrupt is to be acknowledged, and to transition control to the VMM.

14. The apparatus of claim 13 wherein the interrupt controller interface logic is to determine whether the interrupt is to be acknowledged by determining whether an interrupt acknowledge indicator is set to an acknowledge value.

15. The apparatus of claim 14 wherein the interrupt acknowledge indicator is controlled by the VMM.

16. The apparatus of claim 14 wherein the interrupt acknowledge indicator is stored in a virtual machine control structure (VMCS).

17. A system comprising:

a memory to store one or more indicators; and

a processor, coupled to the memory, to use the one or more indicators to determine that the interrupt is to cause a transition of control to a virtual machine monitor (VMM), to determine whether an interrupt is to be acknowledged prior to the transition of control to the VMM, to acknowledge the interrupt if the interrupt is to be acknowledged, and to transition control to the VMM.

18. The system of claim 17 wherein the processor is to determine whether the interrupt is to be acknowledged by determining whether an interrupt acknowledge indicator is set to an acknowledge value.

19. The system of claim 18 wherein the interrupt acknowledge indicator is controlled by the VMM.

20. The system of claim 18 wherein the interrupt acknowledge indicator is stored in a virtual machine control structure (VMCS).

21. A machine-readable medium containing instructions which, when executed by a processing system, cause the processing system to perform a method, the method comprising:

recognizing an interrupt pending during an operation of guest software;

determining that the interrupt is to cause a transition of control to a virtual machine monitor (VMM);

determining whether the interrupt is to be acknowledged prior to the transition of control to the VMM;

acknowledging the interrupt if the interrupt is to be acknowledged;  
and

transitioning control to the VMM.

22. The machine-readable medium of claim 21 wherein determining whether the interrupt is to be acknowledged comprises determining whether an interrupt acknowledge indicator is set to an acknowledge value.

23. The machine-readable medium of claim 22 wherein the interrupt acknowledge indicator is controlled by the VMM.

24. The machine-readable medium of claim 22 wherein the interrupt acknowledge indicator is stored in a virtual machine control structure (VMCS).